User Needs Sub-committee[27] would define a need for a feature and pass that need to the APIC Committee[28]. The APIC Committee would review the requested feature and pass it either to a sub-committee for further definition and/or development of a document which would not become an official TIA standard or pass the request to the chairman of the TIA TR-8 Committee. If passed to the TR-8 Committee, an appropriate TIA TR-8 sub-committee or working group would be assigned the task of developing a standard, interim standard (IS), or technical services bulletin (TSB) according to normal TIA procedures. The document thus developed would be balloted through normal TIA procedures and, if approved, prepared for publication as a TIA document. The balloted document then would be returned via the APIC Committee to the Project 25 Steering Committee[29]. The Steering Committee would review the document and approve it for publication as a "Project 25" document. The Memorandum of Understanding between TIA and the Project 25 Steering Committee provides that should either party not approve a document, then the approving party may still publish the document but must remove references to the non-approving party. To date, all published documents have been approved by both parties. Thus, to describe the existing documents as being

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[27] The User Needs Sub-committee is subordinate to the Project 25 Steering Committee, therefore is not a recognized TIA standards formulating committee. Membership in the User Needs Sub-committee is open to representatives from public safety agencies and to representatives of the manufacturers. The User Needs Committee is chaired by an appointed representative from a public safety entity.

[28] The APIC Committee is an independent committee consisting of representatives of the manufacturers and representatives from public safety agencies. The APIC Committee is chaired by an elected manufacturer's representative.

[29] The Project 25 Steering Committee consists of three members appointed by APCO, three members appointed by NASTD, three Federal Government representatives, a co-chair appointed by APCO and a co-chair appointed by NASTD.

something less than documents developed through an appropriate standards association is improper---all of the documents have been approved first as TIA documents then as "Project 25" documents.

C. General Service Rules

1. Regional Planning Committees

31. The State supports the use of regional planning committees for the allocation of spectrum to specific users within each region. This process was used for the allocation of the NPSPAC spectrum and, at least within California, it worked well. Certain issues, such as the allocation and use of nationwide interoperability channels, need to be addressed in a national plan to ensure commonality across the country. Other issues are uniquely local issues which are best resolved by the parties immediately impacted by the decisions to be made. In particular, the specific allocation of channels is best done within the framework of regional planning in which the needs of one prospective user can be considered within the context of other prospective users.

32. The success of any regional planning committee is dependent upon the participation of agencies within the region. Even within California, where the regional planning process worked well, the reality is that, for the most part, those agencies which were interested in obtaining use of the spectrum participated in the process, other agencies having little interest did not participate. Care must be taken to ensure that plans developed through this process do not simply fulfill the needs of the participants and ignore the potential use of the spectrum by non-participants. Within California, this was accomplished by ensuring that each of the disciplines (police, fire, EMS, general

government, etc.) and that each of the jurisdictional types (state, county, large and small city) were represented on the committee. Obtaining this level of participation is critical to the success of the regional planning process; however, it is not easily obtained. Many factors impact an agency's ability to participate in any planning process—the time commitment for staff and the cost for travel to committee meetings are two big factors. These factors must be weighed against the perceived need of the agency to use the spectrum and its general desire to support the needs of other agencies in the region. For this reason, the State recommends the Commission keep the size of each region reasonably small. This will serve to minimize the time commitment by keeping the size of the planning process manageable, to minimize the travel commitment, and to enhance the feeling of "service to the community". In particular, any requirement for representatives to travel outside of the state would be a particular burden upon participation by State of California agencies and we understand it also to be a burden for local agencies. Therefore, the state recommends that regions not involve multiple states unless there is significant interaction between radio systems.

33. One significant shortcoming of the NPSPAC planning process was a lack of any funding mechanism for the regional planning committees. The committees had reasonable expenses such as advertising costs to notify potential users of upcoming meetings, costs associated with providing meeting space, and costs for printing and distributing copies of the plan. In some regions, these costs were absorbed by local

governmental agencies, in others the local APCO[30] chapter absorbed the costs. Any future planning process must resolve these funding issues. The State recommends the regional planning committees be funded through "regional plan fees" charged to users of the spectrum. In this manner, regional planning committees should be allowed to submit bills for their reasonable costs and be reimbursed. There are two questions which must be answered: (1) what is a reasonable expense and (2) who should be responsible for reimbursing the committees? In answer to the first question, the State believes expenses which are related to general usage, such as those identified above, are reasonable. Expenses which are related to individuals, such as travel expenses, should not be reimbursable. The answer to the second question is not so easy since it requires that some entity collect the fees and process bills for reimbursement. It further implies a uniform policy as to what is reimbursable and not reimbursable, an auditing structure to ensure proper use of the moneys, and staff to handle the account. Furthermore, since the cost of operating the regional planning committees will begin before there is any income, the entity providing this service will have to "front" these expenses pending reimbursement from "regional plan fees" to be collected later. The State is hopeful that some entity will volunteer to provide this service.

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[30] The Association of Public Safety Communications Officials-International, Inc. APCO is one of the four "frequency coordinators" designated by the Commission and had primary responsibility for frequency coordination in the 800 MHz band. APCO did not have a source of income to recover costs associated with the regional planning process. Nonetheless, APCO headquarters in Florida and several of the chapter, including both chapters in California, expended funds from other sources to support the regional planning process under NPSPAC.

2. Eligibility and Licensing of General Use Channels

34. The State objects to the overly narrow definition for public safety as used to define eligibility for use of the 746-806 MHz spectrum. The State realizes that this definition originates from Congressional action. Nonetheless, it is unrealistic and will serve more as an impediment to the development of radio systems in this band than as a means to ensure "public safety" needs are met. The PSWAC agonized long and hard over this very issue and finally concluded that the only reasonable solution was to define "public safety" as:

> The public's right, exercised through Federal, State or Local government as prescribed by law, to protect and preserve life, property, and natural resources and to serve the public welfare".

This definition has many important elements which are not included in the limited definition in the Communications Act.

35. First, the PSWAC definition allows Federal agencies to be full partners in the use of this spectrum. During the PSWAC process, the Federal participants failed to identify any need for additional Federal-exclusive spectrum. They did, however, identify a need to interoperate with state and local agencies and expressed concerns about certain restrictions which limited their ability to be users on non-Federal radio systems. The State believes Federal agencies should be allowed to not only be users, but be full partners in the development of shared radio systems involving state and/or local public safety agencies. They should also have full access to any "interoperability" channels

which might be established in this band. They should be restricted only from the development of independent Federal-exclusive radio systems in this spectrum.

36. Second, the PSWAC definition allows agencies other than the traditional "guns and hoses" agencies access to the spectrum. This becomes an issue to the viability of building radio systems in this new spectrum. The trend today is to build trunked radio systems which are designed to serve all of the agencies within a governmental entity, not restrict use to the "guns and hoses" agencies. Thus, trunked radio systems serve not only the police and fire department, but also serve the public works department and the welfare agency and the administrative offices and any other agency in the city/county needing radio services. Not only does this help distribute the cost of building the system, but it also creates a built-in capability to "shed load" during a major event. By setting up a priority access scheme to grant greater access rights to the police and fire agencies and/or by instructing users in the lower priority agencies to minimize their use of the radio system, the shared-use system can handle the surge load of a major event by making a greater portion of the system available for use by the police or fire agency. Additionally, many entities which have constructed 800 MHz trunked radio systems have found that the "non-guns and hoses" agencies can be added as users with almost no impact on the system design. Typically, this is because they need and use the system mostly during weekday, daylight hours while the "guns and hoses" agencies have a greater need in the evening and nighttime hours. Thus, there is a good operational match amongst the users which results in more effective use of the system.

37. Third, the definition allows for certain interpretations that are, at best, inequitable depending upon which side of the interpretation a particular agency falls. For instance, how is "*...the sole or principal purpose...*" to be interpreted, particularly as it is applied to an agency. Does this mean that "personnel" is eligible to use this spectrum if it is a part of a police agency, but not if it is a part of a separate administrative services agency? Or perhaps, the "administrative services" functions within a police agency are not eligible at all because the principal purpose of those functions are not related to any of the listed criteria. What about the definition of "*life*". Does that mean "human life" or are animal control and wildlife managers included? After all, the focus of their work is the preservation of "animal life". What about the definitions of "*health*" or of "*property*". Is the welfare department included in the definition of "health"? What about welfare fraud investigators working for the welfare agency? "Investigators" often are fully sworn police officers---should they have less access to the radio spectrum than officers in the police department? Are these questions going to be answered the same across the country? Are they going to be answered the same in frequency impacted-areas and in non-impacted areas? Is the Commission of 2010 going to make the same interpretations as today's Commission? "Fairness" requires that there be consistency in the answer to these questions.

38. The PSWAC finally decided the only equitable place to draw the line was to define public safety such that it included all governmental activities. Even this definition is fraught with inequities because government-owned utilities[31] or government-owned

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[31] For instance, the Sacramento Municipal Utility District.

railroads[32] would be included in the definition of public safety while privately-owned companies performing those exact same functions in other parts of the country would not be included. The PSWAC rationale was that a clear distinction could be drawn as to whether the entity was government-owned or not and furthermore, the intent of the government-owned entity was to provide a service to its constituents while the intent of the privately-owned entity was to make a profit for its shareholders.

39. For the reasons stated above, the State recommends the Commission adopt eligibility rules which more closely follow the broad PSWAC definition than the narrow Congressional definition of public safety.

3. Provision and Use of Public Safety Channels

40. The State recommends that all available spectrum in the 746-806 MHz band be allocated for voice and data (19.2 kbps and less) uses, at the very least within the frequency impacted areas such as California. In particular, the State notes that during the NPSPAC regional planning process, it and other wide-area regional entities were at a disadvantage in the allocation of spectrum due to the impact such allocations would have on satisfying the needs of other, smaller entities[33]. For this reason, the State requests that the needs of states and other large regional users be considered in the

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[32] For instance, light-rail districts and subway systems.

[33] Assignment of a channel to a state agency not only resulted in the use of that channel by a single agency throughout the state, but also resulted in the "loss" of the two adjacent "offset" channels for use anywhere in the state due to interference considerations. The two regional planning committees in California were reluctant to assign very many channels to the State of California because of the "three channels lost" impact of each assignment.

allotment of frequencies and suggests that an allotment of 150 12.5 kHz wide channels, spread evenly across the entire band, be made for state/regional systems[34].

41. The State further recommends that no spectrum be allocated for image/high speed data or for video anywhere in the country. However, regional committees should be permitted to aggregate spectrum for image/high speed data and/or video services upon a showing that no voice and data needs will be left unmet within the region and that no such needs are expected to go unmet for at least ten years.

42. The State recommends the entire 24 MHz of spectrum be channelized for 6.25 kHz voice/data channels with an allowance for aggregating channels into 12.5 kHz sets for voice applications pending availability of 6.25 kHz voice radio equipment. Aggregation of channels into 25 kHz sets should also be permitted for 19.2 kHz data applications.

43. As discussed in regards to interoperability, the State recommends that only digital communications, including digitized voice, be permitted in this band. While the State is convinced that standards will enhance interoperability and serve to make the equipment and service market more competitive, it does not believe users should be required to use any particular technology for other than interoperability purposes. That is to say, individual users should be allowed to make a decision as to whether they

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[34] The State of California currently is in the process of designing a radio system which would service many state agencies including the California Highway Patrol, the Department of Corrections, the Department of Transportation, the Department of Justice, the Department of Parks and Recreation, and numerous others. Our preliminary design indicates a need for 120 channels to satisfy those needs. While fewer channels would be adequate in the rural areas of the state, the full 120 channels would be needed in the most populous areas which also are the most frequency congested.

want to use the "standard" system[35] or to use some proprietary system offered by a particular manufacturer, with one caveat---whatever equipment they use, it **must** be capable of operating in the "standard" mode for interoperability purposes. "Non-standard" systems may offer features and/or performance which uniquely satisfy some operational requirement of the using agency. The using agency should be allowed to realize those benefits. Hopefully, in making their decision, they also will consider the disadvantages of limiting future options. In other words---Buyer Beware! Nonetheless, there is public good to be gained from having an ability to interoperate with other public safety agencies in the area. That public good can be guaranteed by requiring all users to have within their radios the capability of operating in the standardized mode on the interoperability channels.

D. Technical Parameters for All Public Safety Channels and Operations in 746-806 MHz Band

1. Bandwidth

44. Prior allowances for bandwidths which exceeded the channel spacing were largely based upon improving spectral efficiency by allowing additional users to operate on "offset" channels with some minimal geographic separation. All evidence would indicate that a Project 25 radio is capable of operating within the 11.25 kHz mask for a 12.5 kHz channel spacing. Therefore, the State recommends the Commission initially

[35] As defined by the standard defined for operations on the "interoperability" channels.

set the bandwidth at 11.25 kHz with a plan to narrow the bandwidth to an appropriate amount when 6.25 kHz equipment becomes more of a reality.

2. Emission Mask; Frequency Stability; Power and Antenna Height

45. In general, the power and antenna height limitations as applicable to the 800 MHz bands have worked well to limit system coverage to reasonable distances. Even for wide area systems such as those operated by the State, the power/antenna height limitations have not resulted in a significant increase in the number of radio sites needed to provide coverage. The same cannot be said for the "safer harbor" tables developed for the VHF Highband and UHF portions of the spectrum. Insofar as the Commission adopts power and antenna height limitation which are patterned after those applicable to 800 MHz, the State could support such a proposal. It could not support a proposal patterned after the restrictions in the lower frequency bands.

3. Base Station Protection

46. The protection criteria developed by the regional planning committees within California have worked well. Therefore, the State recommends that establishment of base station protection criteria relative to the 746-806 MHz spectrum be left up to the regional planning committees.

E. Construction Requirements

47. The amount of time within which a radio system should be constructed is highly dependent on a number of factors. Allowing a small entity up to five years to design and construct a radio system consisting of a two base stations and one hundred mobile units is more than generous. Constructing a very large system such as the one contemplated by the State consisting of over 600 base stations and 20,000+ mobile units, however, could reasonably take ten years or more. The rules should allow a reasonable time period for implementation of very large systems while maintaining reasonable pressure on small systems to complete construction. While it is undesirable to allow agencies to "warehouse" frequencies for future (undefined) needs, a reasonably long period of "guaranteed" access to certain spectrum is needed to complete funding, design, procurement and installation of public safety radio systems. Oftentimes, public safety communication projects are funded in phases with funding of later phases dependent upon the successful completion of earlier phases and upon the availability of funds at the particular time. A "lock-in" of the frequencies to be used is critical to the system design and purchase contracting phases, both of which occur early in most processes. Thus, some "warehousing" will occur as an agency works its way through the process. The larger the system, the longer the "warehousing" of some channels will be needed. Therefore, the State recommends a "slowgrowth" period of five years be permitted within the rules, however, longer periods should be allowed "by waiver" for extremely large systems such as the one contemplated by the State.

F. Use of Television Channels 63, 64, 68 and 69 for Public Safety

48. The State supports the use of channels 63, 64, 68, and 69 for public safety use and further supports the use of frequencies in channels 63 and 64 for base-to-mobile transmissions and the use of frequencies in channels 68 and 69 for mobile-to-base communications with the frequencies in channel 63 paired with the frequencies in channel 68 and the frequencies in channel 64 paired with frequencies in channel 69.

49. Although not specifically an issue in this proceeding, the State reiterates its comments made in response to ET Docket 97-157. Access to this spectrum is needed sooner, not later. The Commission should encourage television broadcast stations to move off this spectrum as soon as possible, thus making it available for use in satisfying critical public safety needs. This is particularly important in the frequency impacted areas such as Los Angeles and San Francisco.

III. PRIORITY ACCESS SERVICE

50. The State does not understand why this topic has been included in this proceeding since it has nothing to do with public safety land mobile radio systems. The State recommends this section be removed and reissued as a separate proceeding.

51. The concept of priority access is of limited value to state and local systems because it is not widely offered. Even if it were, there is little value in having "top of queue" priority when the entire cell site is busy with media users who remain "off-hook" for the duration of an event. Providing "ruthless preemption" priority service is fraught

with liability problems associated with who might have been disconnected. Was that person themselves engaged in an emergency call or did preempting the call interfere with "freedom of the press" rights or whatever. It isn't worth the time in court and the possible judgment to seriously consider this an option.

52. Additionally, the issue of priority access addresses itself to commercial services which might be in use by public safety agencies. As found by the PSWAC and confirmed by a study recently completed by the State relative to its own public safety agencies, the usefulness of commercial services for "mission critical" communications is extremely limited. Commercial services do not provide the level of coverage, the reliability, the availability, the restorability, nor the accessibility needed by public safety agencies. While public safety agencies make use of commercial services where appropriate, they are not used for "mission critical" communications. This then begs the question: if the communications being carried on commercial services are not "mission critical", then why would a public safety agency need priority access to the service?

IV. CONCLUSION

53. The State of California recommends the Commission establish rules which are consistent with the comments contained herein.

Respectfully Submitted:

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